

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

FULLVIEW, INC.,
Plaintiff,

v.

POLYCOM, INC.,
Defendant.

Case No. [18-cv-00510-EMC](#)

CLAIM CONSTRUCTION ORDER

I. INTRODUCTION

Plaintiff FullView, Inc. (“FullView”) accuses Defendant Polycom, Inc. (“Polycom”) of infringing U.S. Patent No. 6,128,143 (the “‘143 Patent”). On March 23, 2021, the parties appeared before the Court for a claim construction hearing. The parties have asked the Court to interpret two terms that appear in claims 10 through 12 of the ‘143 Patent. For the following reasons, the Court adopts the constructions identified below.

II. BACKGROUND

A. Factual Background

FullView, the owner of the ‘143 Patent and U.S. Patent No. 6,700,711 (“the ‘711 Patent”), asserts Polycom infringes on its patents.

The ‘143 Patent relates to panoramic viewers used in videoconferencing devices. *See* Docket No. 75 (“SAC”) ¶¶ 12-13. More specifically, it describes a compact “omni-directional or panoramic viewer” based on three primary components. Docket No. 75-1 (“‘143 Patent”), claims 10-12. First, there is at least one pyramid shaped object with mirrors on each of its sides, other than its base. *Id.* at 16:23-29. Second, there are image-processing devices, such as cameras, that

are oriented around the pyramid to provide a continuous 360-degree view of the area. *Id.* at 2:3-5; 16:20-22. Each camera is pointed towards a different side of the mirrored pyramid and as a result, these cameras have a virtual optical center positioned within the pyramid. *Id.* at 2:16-20; 16:26-28. Third, there is a “support member” (*i.e.*, a post) that intersects the pyramid shaped object’s “inner volume.” *Id.* at 11:54-56; 16:30-34. Some of the cameras are also attached to this support member. *Id.* at 11:60-63; 16:30-34. The ‘143 Patent builds upon the ‘711 Patent, by reducing the ‘711 Patent’s manufacturing costs through improvements in calibration and assembly. *Id.*

B. Procedural Background

1. Inter Partes Review History

In January 2012, Polycom filed an *inter partes* reexamination (IPR) challenging the validity of the ‘711 Patent based on obviousness grounds. *See* SAC ¶ 18; *see also Polycom, Inc. v. Fullview, Inc.*, 767 F. App’x 970, 983 (Fed. Cir. 2019). On January 4, 2017, the Patent Trial and Appeal Board (PTAB) upheld the ‘711 Patent as valid; the U.S. Court of Appeals for the Federal Circuit affirmed the PTAB’s decision on April 29, 2019. SAC ¶¶ 21, 23. On January 31, 2019, Polycom sought an IPR of the ‘143 Patent. *Id.* ¶ 24. However, the PTAB denied this petition as well as Polycom’s request for rehearing on September 10, 2019. *Id.* ¶ 25.

2. Litigation History

On January 23, 2018, FullView filed its first complaint. Docket No. 1. On July 2, 2020, FullView filed its second amended complaint alleging a single claim for relief: infringement of both the ‘711 and ‘143 Patents under 35 U.S.C. § 271 by (1) direct infringement; (2) infringement by inducement; and (3) infringement via the doctrine of equivalents. SAC ¶¶ 59-66. Polycom moved to dismiss the second amended complaint’s claims pertaining to the ‘711 Patent because that patent (a) was directed at nonpatentable subject matter and (b) sought to protect an abstract idea without an inventive concept. *Id.* The Court granted Polycom’s motion to dismiss on both grounds. Docket No. 105.

Accordingly, only claims 10 through 12 of the ‘143 Patent are currently in dispute in this litigation. *See* Docket No. 110 (“Joint Statement”) at 2; SAC ¶ 47. The parties ask the Court to construe two terms: (1) “pyramid shaped element” and (2) “inner volume.” *Id.* at 3. On February

19, 2021, the parties presented a technology tutorial to the Court. Docket No. 125. The claim construction hearing followed on March 23, 2021. Docket No. 132.

III. DISCUSSION

A. Legal Standard

Claim construction is a question of law. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). The purpose of claim construction is to “determine[e] the meaning and scope of the patent claims asserted to be infringed.” *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008). The proper construction of a term is one that “stays true to the claim language and most naturally aligns with the patent’s description of the patent.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

Claim construction follows certain interpretive principles. First, “the claims of a patent define the invention.” *Phillips*, 415 F.3d at 1312. Second, the words of a claim are generally given their “ordinary and customary meaning” which is the “meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1312-13. In some cases, the ordinary meaning of the claim language is “readily apparent” and may involve “little more than the application of the widely accepted meaning of commonly understood words.” *Id.* at 1314. In other cases, the words may be more specialized and have “a particular meaning in the field of art.” *Id.* Third, claim construction may only deviate from the ordinary and customary meaning of a term if “a patentee sets out a definition and acts as his own lexicographer” or if “the patentee disavows the full scope of a claim term” during prosecution or in the specification. *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Courts first look to intrinsic evidence, such as the patent claims, specification, and prosecution history. *See Phillips*, 415 F.3d at 1314-16. “The claims themselves provide substantial guidance as to the meaning of particular claim terms.” *Id.* at 1314. The “context in which a term is used in the asserted claim,” “[o]ther claims of the patent in question, both asserted and unasserted,” and “[d]ifferences among claims” are all instructive. *Id.* The claims “must be read in view of the specification,” which is “the single best guide to the meaning of a disputed

term.” *Id.* at 1315. Generally, courts will “not interpret claim terms in a way that excludes disclosed examples in the specification.” *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1305 (Fed. Cir. 2007). On the other hand, “limitations from the specification are not to be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998). Lastly, while the court should consider the patent’s prosecution history, it is often seen as “less useful” than the specification because it represents “an ongoing negotiation between the PTO and the applicant, rather than the final product.” *Phillips*, 415 F.3d at 1317.

Courts can also look to extrinsic evidence, like expert testimony, dictionaries, and learned treatises, but such evidence is often seen as secondary to intrinsic evidence. *See id.* at 1317-18. Technical dictionaries in particular “can assist the court in determining the meaning of particular terminology to those of skill in the art.” *Id.* at 1318. Expert testimony can also be helpful when it provides “background on the technology at issue” or “explain[s] how an invention works.” *Id.* However, expert testimony “that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history” should not be relied upon. *See id.*

B. Analysis

The parties ask the Court to construe two terms: (1) “pyramid shaped element” and (2) “inner volume [of the pyramid shaped element].” Joint Statement at 3. Both claims are discussed below.

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1. “pyramid shaped element”

Claim Term	FullView’s Proposed Construction	Polycom’s Proposed Construction
“pyramid shaped element” (claims 10 and 11)	“a unitary object shaped like a pyramid, except that its apex and base may be absent or incomplete.” ¹	“an object shaped like a polyhedron with three or more sides, except that its apex and base may be absent or incomplete” ²

The term “pyramid shaped element” is found in several claims of the ‘143 Patent, including disputed claims 10 and 11. *See* ‘143 Patent, claims 10-11. Claim 10 describes a panoramic viewing apparatus that consists of three components: image processing devices (*e.g.*, cameras), a pyramid shaped element with a plurality of reflective side facets, and a support member. *Id.* Claim 11 depends on claim 10, and it describes a variation of the panoramic viewing device, where a “plurality of image processing devices are secured to a portion of the support member that extends out of the pyramid shaped element.” *Id.* The term “pyramid shaped element” is not expressly defined in the ‘143 Patent and is mentioned only in the patent’s claims. *See id.* The term was also not defined or construed during patent prosecution or the IPR process. *See* Docket No. 116-1 (“Prosecution History”) at 16-19; Docket No. 116-4 (“IPR Decision”) at 85-86.

¹ FullView initially proposed the following construction for this term in the joint statement: “A pyramid is a polyhedron with a polygonal base and triangular side facets, each triangular side facet extending from one complete edge of the polygonal base to a common vertex — the apex of the pyramid. As a result, each triangular side facet of a pyramid shares one edge with the pyramid’s base and each of its other two edges with a neighboring side facet, each of the latter two edges extending along a straight line from a corner of the polygonal base to the apex. A ‘pyramid-shaped element’ is a unitary object shaped like a pyramid, except that its apex and base may be absent or incomplete.” Joint Statement at 3. But during the claim construction hearing, FullView counsel clarified it was not relying on the extensive definitional language, asserting instead that its construction of “pyramid shaped element” was simply “a unitary object shaped like a pyramid, except that its apex and base may be absent or incomplete.” *See* Docket No. 135 (“Hearing Tr.”) at 17:23-18:5; 20:24-21:7; 22:2-22:8.

² In its opposition brief, Polycom changed its construction of “pyramid shaped element” from “an element with three or more sides, excluding the base” to “an object shaped like a polyhedron with three or more sides, except that its apex and base may be absent or incomplete.” *See* Docket No. 110 at 3; Docket No. 117 at 10.

At the claim construction hearing it became evident that the parties' constructions of the term "pyramid shaped element" are nearly identical, except for the use of "polyhedron" in Polycom's proposal and "unitary" in FullView's proposal. *See* Hearing Tr. at 23:4-25, 24:1-8. Polycom stated that it is willing to use the term "pyramid" rather than "polyhedron," as long as the construction allows for shapes that deviate from a perfect geometric pyramid. *See id.* at 4:12-25; 15:1-5; 20:17-23.

In turn, FullView explained that "unitary" refers to a single pyramid shaped element, where each of the pyramid shaped element's reflective side facets touch or abut each other. *Id.* at 19:4-9; 22:9-16; Reply Br. at 5. Free floating mirror panels that are unconnected would therefore not be considered a "pyramid shaped element." *See* Hearing Tr. at 19:8; Reply Br. at 7. Polycom agrees that the "pyramid shaped element" is a single object where the sides are connected and does not include free floating mirrored panels, but explained that fasteners can be used to connect reflective side facets such that those facets are not technically touching each other. Hearing Tr. at 21:14-25; 22:1; 23:10-17. Polycom also expressed concern that the term "unitary" is not in the '143 Patent and could be misconstrued as a claim limitation. *Id.* at 21:19-24; Responsive Br. at 10, 14-15. The Court shares Polycom's concerns regarding the term "unitary."

Given the substantial common ground between the parties' proposed constructions of the term "pyramid shaped element," the Court recommended the parties meet and confer to resolve their remaining differences. Hearing Tr. at 23:18-25; 24:1-5. It appears the only difference pertains to the treatment of fasteners connecting the connected sides. The parties agreed to provide the Court an updated joint construction of the term "pyramid shaped element" before the next status conference on April 15, 2021. *Id.* at 24:6-8; 33:15-16, 22:25. If the parties are unable to reach an agreement the Court will construe the term at that time. *Id.* at 24:2-5; 34:6-13.

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2. “inner volume [of the pyramid shaped element]”

Claim Term	FullView’s Proposed Construction	Polycom’s Proposed Construction	Adopted Construction
“inner volume [of the pyramid shaped element]” (claim 10)	“Non-peripheral volume”	“inside the space defined and bounded by the pyramid shaped element”	“inside the space defined and bounded by the pyramid shaped element”

The term “inner volume” is found in several claims of the ‘143 Patent, including disputed claim 10. *See id.*, claim 10. Claim 10 mentions “inner volume” in relation to the pyramid shaped element and the support member:

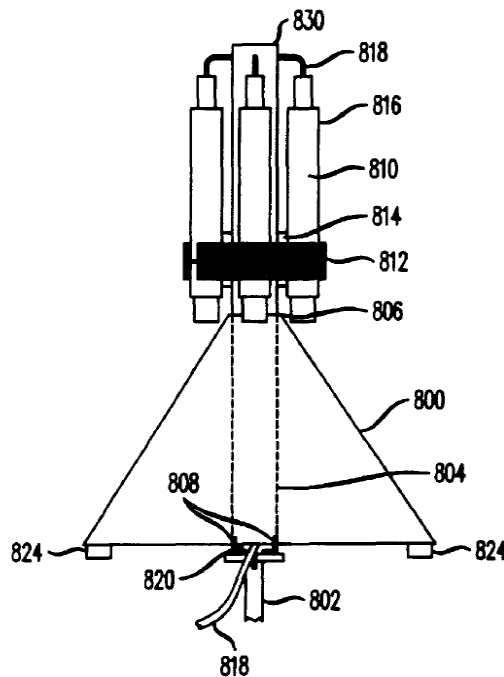
a support member intersecting an *inner volume* of the pyramid shaped element, the pyramid shaped element being secured to the support member and the plurality of image processing devices being secured to the support member.

Id. (emphasis added). The term “inner volume” is only mentioned in the patent’s claims and it is not expressly defined. *See id.* The term was also not defined during patent prosecution but was partly construed by the PTAB in its decision denying Polycom’s IPR petition for the ‘143 Patent. *See* Prosecution History at 16-19; IPR Decision at 85-86. FullView asserts that the term “inner volume” should be construed by itself, because “inner volume” may have meaning for non-pyramid shaped elements that are used in the prior art. Joint Statement at 2. In contrast, Polycom asserts that the entire phrase “inner volume of the pyramid shaped element” should be construed. *Id.* The Court will construe the entire term of “inner volume of the pyramid shaped element” because the volume of an object is dependent on its three-dimensional shape. *See* Docket No. 117-2 (“Merriam-Webster Dictionary”) at 43.

The parties disagree on the meaning of “inner volume” as it relates to a support member intersecting the pyramid shaped element. Joint Statement at 2. FullView argues that there are essentially two types of volume within the pyramid shaped element: (1) peripheral/outer volume and (2) inner volume. *See* Docket No. 116 (“Open Br.”) at 8-9; Docket No. 118 (“Reply Br.”) at

9-14. For a support member to intersect the “inner volume” of a pyramid shaped element means that the pyramid shape must be intersected in its “non-peripheral” volume such as through its core or vertex. *See* Open Br. at 9. FullView relies heavily on Figure 17 in the specification, which FullView claims shows a support member intersecting the “inner volume” of a pyramid shaped element. *Id.* As seen from the figure below, FullView asserts the support member (804) intersects the pyramid shaped element (800) far beyond the element’s outer edges:

FIG. 17



Id.; ‘143 Patent at Fig. 17.

Conversely, Polycom defines inner volume as the *entire* space within the pyramid shaped element. Docket No. 117 (“Responsive Br.”) at 17-19. For a support member to intersect the “inner volume” of a pyramid, the support member simply needs to have a portion of it inside the pyramid. *Id.* In response to FullView’s reliance on Figure 17, Polycom asserts this is an improper attempt to limit the scope of the claim to a specific embodiment. *Id.* at 20-21. Moreover, the term “inner volume” is not mentioned in the patent specification or labeled on Figure 17, making it difficult to discern where “inner volume” begins or ends in the pyramid shaped element. *Id.* at 18, 20. This lack of specificity renders the claim indefinite which runs counter to the goals of claim

1 construction to interpret claims in a way that maintains their validity. *Id.* at 20.

2 Polycom raises important concerns. First, Polycom is correct that claims are generally not
3 limited to a preferred embodiment without an express intention otherwise. *See Phillips*, 415 F.3d
4 at 1317 (even if a patent only describes a single embodiment, the claims should not be construed
5 as being limited to that embodiment); *Liebel–Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906
6 (Fed.Cir.2004) (patent claims will not be read restrictively unless patentee demonstrated clear
7 intention of limiting the claim scope). In this case, there is no language within the specification or
8 prosecution history to suggest that Figure 17 was intended to limit the scope of claim 10. *See*,
9 *e.g.*, *Watts v. XL Sys., Inc.*, 232 F.3d 877, 883 (Fed. Cir. 2000) (holding applicants specifically
10 “limit[ed] the invention” to particular structures by specifying that the invention uses only those
11 structures and further limited the scope by distinguishing prior art”); *Toro Co. v. White Consol.*
12 *Indus., Inc.*, 199 F.3d 1295, 1301 (Fed. Cir. 1999) (noting specification described structure as
13 “important to the invention”). Figure 17 simply describes a “stand used to support panoramic
14 viewer.” ‘143 Patent at 49. As for patent prosecution, there was no clear disavowal of claim
15 scope by the patent owner. *See* Prosecution History at 33-34. The prior art that FullView
16 distinguished from its invention had support members that merely abutted the pyramid shaped
17 structure and although FullView used the term “inner volume” in its response to the PTO’s office
18 action rejecting FullView’s patent claims as obvious over the prior art, it did not define that term.
19 *See id.* at 16-21, 33-34.

20 Second, Polycom also raises a valid concern as to claim indefiniteness. FullView’s
21 definition of “inner volume” as “non-peripheral volume” leads to uncertainty because it is unclear
22 where inner volume begins or ends within the pyramid shaped element. *See Biosig Instruments,*
23 *Inc. v. Nautilus, Inc. (Nautilus II)*, 783 F.3d 1374, 1382–83 (Fed. Cir. 2015) (holding claim
24 language was not indefinite because it was bounded: “neither infinitesimally small nor greater than
25 the width of a user’s hands”). Definiteness requires that a patent “inform with reasonable certainty
26 those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*
27 *(Nautilus I)*, 572 U.S. 898, 901, 910 (2014) (standard “mandates clarity, while recognizing that
28 absolute precision is unattainable”). In *Nautilus II*, the court held a claim was not indefinite

1 because the claim’s language was bounded by the specification and the patent’s prosecution
 2 history. 783 F.3d at 1382-83. For example, “the distance between the live electrode and common
 3 electrode” could not be greater than the width of a user’s hands, because claim 1 required
 4 detection of electrical signals at two distinct points on a user’s hand. *Id.* at 1382. On the other end
 5 of the spectrum, the distance could not be too small, because it would “merge the live and
 6 common electrodes” which would contradict the specification. *Id.* at 1383.

7 This case differs from *Nautilus II* because, while one end of the spectrum is roughly
 8 defined (FullView claims the “inner volume” includes the pyramid’s core), it is not clear from the
 9 specification or prosecution history where “inner volume” ends and “peripheral volume” begins.
 10 See Prosecution History at 33-34; *see generally*, ‘143 Patent. During prosecution, FullView
 11 differentiated its invention from those where the support member merely abutted or touched the
 12 pyramid shaped element. See Prosecution History at 33-34 (“Yamazawa ... discloses a
 13 hyperboloidal mirror mounted in a spherical glass tube ... it does not disclose or suggest ‘a
 14 support member intersecting an **inner volume** of a pyramid shaped element”). But the
 15 specification and claims are silent as to the different types of volume *within* a pyramid shaped
 16 element. *See generally*, ‘143 Patent (no mention of “volume” or “inner volume” in specification;
 17 no mention of “peripheral volume” in any part of the patent).

18 FullView claims that Polycom’s construction is improper because it would result in
 19 redundancy. Polycom counters that its construction would not render the term “inner” redundant.
 20 Relying on a dictionary definition that states volume “refers to the three-dimensional space
 21 occupied by an object—that is the structure itself, as well as the space inside that structure,”
 22 Polycom claims that “inner volume” properly refers to all of the space defined and bounded by the
 23 three-dimensional structure.

24 The Court agrees with Polycom. It finds Dr. Nalwa’s opinion unpersuasive because his
 25 conclusions are not grounded in the intrinsic evidence. *See SkinMedica, Inc. v. Histogen Inc.*, 727
 26 F.3d 1187, 1195 (Fed. Cir. 2013); *Phillips*, 415 F.3d at 1318. For example, Dr. Nalwa suggests
 27 his interpretation of “inner volume” is supported by the patent prosecution history, but the intrinsic
 28 evidence suggests otherwise. *See* Open Br. at 8-9; Prosecution History at 16-21, 33-34. Initially,

the PTO examiner rejected claims 10-12 of the ‘143 Patent because it found these claims were anticipated by prior art. *Id.*, Prosecution History at 16-21. The PTO examiner stated prior art such as Herdon and Yamazawa “comprised a support system which [was] able to extend into the inner of the reflective element.” *Id.* In response, FullView successfully traversed the PTO’s objections by stating that the prior art did not disclose “a support member intersecting an **inner volume** of pyramid shaped element.” *Id.* at 33-34. Instead, the prior art appeared to show only support systems that abutted the pyramid shaped element. *See id.* During this exchange, FullView did not define the term “inner volume” nor did it discuss “inner” or “non-peripheral” volume as it does now. *See id.* At most, the prosecution history reveals that the element’s “inner volume” does not include its structure, a position consistent with that taken by Polycom.

Moreover, the ‘143 Patent’s IPR process further supports Polycom’s proposed construction.³ *See* IPR Decision at 85-86; Docket No. 116-5 (“IPR Rehearing Denial”) at 104. During the IPR petition process, FullView asserted that the “inner volume” of a reflective element is “within the volume bounded by all [of] its reflective facets.” *Id.* at 85-86. If a support member were to merely “mak[e] contact with a reflective element” it would not penetrate the element’s “inner volume.” *See id.* In its decision denying IPR of the ‘143 Patent, the PTAB construed the term “a support member intersecting an inner volume of a reflective [or pyramid shaped] element” as follows:

“On the present record, including considering the prosecution history, we agree with Patent Owner that the disputed claim term is

³ For IPR petitions filed on November 13, 2018 onwards, the PTAB now applies the “ordinary and customary meaning” standard to claim construction. *See* 37 C.F.R. 42.100(b) (“construing the term in accordance with the ordinary and customary meaning of the term”). Since the PTAB and district courts now apply the same standard for claim construction, it is possible that claim construction made during an IPR proceeding could result in issue preclusion. *See B & B Hardware, Inc. v. Hargis Indus., Inc.*, 575 U.S. 138, 151–52 (2015) (holding proceeding before the PTO’s Trademark Trial and Appeal Board can have preclusive effect); *SkyHawke Techs., LLC v. Deca Int’l Corp.*, 828 F.3d 1373, 1376 (Fed. Cir. 2016) (holding PTAB rulings did not have preclusive effect on district courts partly because the PTAB applied a different standard than the federal courts to claim construction). However, preclusion is not at issue here, as the PTAB’s claim construction was in a decision denying IPR, rather than a full IPR trial. *See, e.g., Adidas AG v. Under Armour, Inc.*, No. 14-130, 2015 U.S. Dist. LEXIS 192937, *3 n.1 (D. Del. Dec. 15, 2015) (“The PTAB’s choice not to institute an IPR is not the type of adjudication that leads to issue preclusion. In declining to institute the IPR, the PTAB did not reach a final decision on the construction...”).

not satisfied by a support member making peripheral contact with a reflective or pyramid shaped element because “intersecting an inner volume” requires an intersection of the support member through *a volume of space defined and bounded by the reflective element.*”

Id. (emphasis added). The PTAB then proceeded to differentiate the prior art from the ‘143 Patent, noting that the prior art had support members that did not intersect the reflective element’s inner volume because they merely made exterior contact or abutted the reflective element. *Id.* at 87-97.

Accordingly, the Court construes the term “inner volume [of the pyramid shaped element]” to mean “inside the space defined and bounded by the pyramid shaped element.” This construction aligns with the patent’s prosecution history and the PTAB’s construction. *See* Prosecution History at 16-34; IPR Decision at 85-86; IPR Rehearing Denial at 104. It is consistent with the claim language and specifications. This construction does not impermissibly limit the claim to a preferred embodiment in the specification and does not raise indefiniteness concerns. *See Phillips*, 415 F.3d at 1317; *Nautilus II*, 783 F.3d at 1382-83.

IV. CONCLUSION

As noted above, the parties have agreed to meet and confer with each other to provide the Court with an updated construction of the term “pyramid shaped element.”

The Court construes the other contested term, “inner volume,” as follows:

- (1) “inner volume [of the pyramid shaped element]”: “inside the space defined and bounded by the pyramid shaped element”

IT IS SO ORDERED.

Dated: April 5, 2021



EDWARD M. CHEN
United States District Judge